

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing Of Claims:

Please amend the claims as follows:

1. (Currently Amended) A method for constructing a service providing system using a framework for service providing system which provides a service for an object system, said method comprising the steps of:

preparing a framework for service providing system, which includes a data holding part for holding data relating to an object system for which a service providing system constructed by said framework provides a service, a user interface part for receiving instructions from a user comprising an end user and for presenting data to the user when the user employs the constructed service providing system, the user interface part ~~being placed on a boundary~~ providing an interface between a computer and the user using the computer, an object system interface part for exchanging data between the object system interface part and said object system in accordance with a predetermined protocol, and an integrated control part for controlling said data holding part, said user interface part and said object system interface part;

preparing a plurality of classes on the basis of each of said data holding part, said user interface part, said object system interface part and said integrated control part of said framework for service providing system;

associating said classes with each other; and

defining a sequence carried out between the respective classes wherein said object system interface part of said framework for service providing system converts external data, which are exchanged between said object system interface part and said object system, into a format of intermediate data which is independent of said protocol, and said integrated control part of said framework for service providing system converts said intermediate data into a format of internal data which is handled in said service providing system, said data holding part and user interface part of said framework for service providing system handling said internal data which have been converted by said integrated control part.

2. (Original) A method as set forth in claim 1, wherein said integrated control part of said framework for service providing system controls data which are held in said data holding part, and connects said data holding part with said user interface part to provide various services for said object system on the basis of data which are given from said user of said object system.

3. (Canceled)

4. (Original) A method as set forth in claim 1, wherein said service providing system is a monitoring system for monitoring an external apparatus serving as said object system.

5. (Original) A method as set forth in claim 1, wherein said service providing system is a control system for controlling a controlled apparatus serving as said object system.

6. (Original) A method as set forth in claim 1, wherein said service providing system is an information system for exchanging information between the service providing system and an information system serving as said object system.

7. (Currently Amended) A service providing system for exchanging service providing instructions and service provided results between the service providing system and an object system to provide various services for said object system, said service providing system comprising:

a data holding part for holding data which relate to an object system for which a service providing system constructed by said framework provides a service;

a user interface part for receiving instructions from a user comprising an end user and for presenting data to said user when the user employs the constructed service providing system, the user interface part ~~being placed on a boundary~~ providing an interface between a computer and the user using the computer;

an object system interface part for exchanging data between the object system interface part and said object system; and

an integrated control part for controlling said data holding part, said user interface part and said object system interface part,

wherein said integrated control part controls data which are held in said data holding part, and connects said data holding part with said user interface part to provide various services for said object system on the basis of data which are given from said user or said object system and said object system interface part converts external data, which are exchanged between said object system interface part and said object system, into a format of intermediate data which is independent of said protocol, and said integrated control part converts said intermediate data into a format of internal data which is handled in said service providing system, said data holding part and user interface part handling said internal data which have been converted by said integrated control part.

8. (Canceled)

9. (Currently Amended) A computer readable recording medium, in which a program for service providing system has been recorded, said program for service providing system comprising, as means for operating a computer:

data holding means for holding data which relate to an object system for which a service providing system constructed by said framework provides a service;

user interface means for receiving instructions from a user comprising an end user and for presenting data to said user when the user employs the constructed service providing system, the user interface part ~~being placed on a boundary~~ providing an interface between a computer and the user using the computer;

object system interface means for exchanging data between said object system interface means and said object system; and

integrated control means for controlling said data holding means, said user interface means and said object system interface means,

wherein said integrated control means controls data which are held in said data holding means, and connects said data holding means with said user interface means to provide various services for said object system on the basis of data which are given from said user or said object system and said object system interface means converts external data, which are exchanged between said object system interface means and said object system, into a format of intermediate data which is independent of said protocol, and said integrated control means converts said intermediate data into a format of internal data which is handled in said service providing system, said data holding means and user interface means handling said internal data which have been converted by said integrated control means.

10. (Canceled)

11. (Currently Amended) A computer readable recording medium, in which a program for service providing system has been recorded, said program for service providing system comprising, as means for operating a computer:

internal system means for realizing various services which are provided for an object system for which a service providing system constructed by said framework provides a service, the user interface part ~~being placed on a boundary~~ providing an

interface between a computer and the a user comprising an end user using the computer;

object system interface means for exchanging data between said object system interface means and said object system; and

integrated control means for controlling said internal system means and said object system interface means,

wherein said object system interface means converts external data, which are exchanged between said object system interface means and said object system, into a format of intermediate data which is independent of a protocol, and said integrated control means converts said intermediate data into a format of internal data which is handled by said internal system.

12. (Currently Amended) A computer readable recording medium, in which a framework for service providing system has been recorded, said framework for service providing system comprising:

a data holding part for holding data which relate to an object system for which a service providing system constructed by said framework provides a service;

a user interface part for receiving instructions from a user comprising an end user and for presenting data to said user when the user employs the constructed service providing system, the user interface part ~~being placed on a boundary~~ providing an interface between a computer and the user using the computer;

an object system interface part for exchanging data between said object system interface part and said object system; and

an integrated control part for controlling said data holding part, said user interface part and said object system interface part,

wherein said integrated control part controls data which are held in said data holding part, and connects said data holding part with said user interface part to provide various services for said object system on the basis of data which are given from said user or said object system and said object system interface part converts external data, which are exchanged between said object system interface part and said object system, into a format of intermediate data which is independent of said protocol, and said integrated control part converts said intermediate data into a format of internal data which is handled in said service providing system, said data holding part and user interface part handling said internal data which have been converted by said integrated control part.

13. (Canceled)

14. (Previously Presented) A computer readable recording medium as set forth in claim 12, wherein each of said data holding part, said object system interface part and said integrated control part includes a class which is prepared for every kind of object systems, and said user interface part includes a class which is prepared for every kind of screens for interface.

15. (Previously Presented) A computer readable recording medium as set forth in claim 14, wherein said class included in said data holding part is prepared for

every kind of data, which are used in said object systems, in addition to the kind of said object systems.

16. (Previously Presented) A computer readable recording medium as set forth in claim 14, wherein said class included in said integrated control part is prepared for every kind of services, which are provided for said object systems, in addition to the kind of said object systems.

17. (Previously Presented) A computer readable recording medium as set forth in claim 16, wherein said class included in said integrated control part includes an upper class, which is prepared for every kind of said object systems, and a lower class which is prepared for every kind of services which are provided for said object systems under said upper class.

18. (Original) A computer readable recording medium as set forth in claim 12, wherein a class included in said integrated control part controls a class included in said data holding part; a class included in said user interface part updates and refers to said class included in said data holding part; data, which are given from said user and said object system, are exchanged between said class included in said user interface part and said class included in said integrated control part; and data, which relate to a service provided for said object system, are exchanged between said class included in said integrated control part and said class included in said object system interface part.

19. (Previously Presented) A computer readable recording system as set forth in claim 12, wherein when service providing instructions for said object system are given to a class included in a user interface part, said class included in said user interface part reflects data, which relate to service providing instructions, in a class included in said data holding part, and gives a class included in said integrated control part notice of said service providing instructions, and said class included in said integrated control part acquires data of said class included in said data holding part, and transmits data of said class, which is included in said data holding part, to a class included in said object system interface part, said class included in said object system interface part adding data, which relate to a protocol, to data received from said integrated control part.

20. (Original) A computer readable recording medium as set forth in claim 12, wherein when service provided results from said object system are given to a class included in an object system interface part, said class included in said object system interface part deletes data, which relate to a protocol, from data received from said object system, and gives a class, which is included in said integrated control part, notice of service provided results, said class included in said integrated control part reflecting data, which relate to service provided results, in a class included in said data holding part, and giving a class, which is included in said user interface, notice of service provided results, and said class included in said user interface part acquiring data, which relate to service provided results, from said class included in said data holding part.